CLAIMS

What is claimed is:

1. A flow control comprising:

(A) a conduit including an inlet, an outlet, and an outer peripheral surface, a gas inlet passage being formed in said conduit and being configured to permit a gas to enter said conduit between said inlet and said outlet; and

(B) a flow control washer that is disposed in said conduit between said inlet and said outlet, said flow control washer being configured to maintain a generally constant volumetric liquid flow rate through said flow control despite pressure fluctuations at said inlet of said conduit.

2. A flow control of claim 1, wherein said gas inlet passage opens into a low pressure region of said conduit located between said flow control washer and said outlet.

3. A flow control of claim 2, wherein said low pressure region comprises a venturi, said venturi including a throat, an inlet portion that is located upstream of said throat and that tapers inwardly toward said throat, and an outlet portion that is located downstream of said throat and that tapers outwardly away from said throat, and wherein said gas inlet passage opens into said venturi downstream of said inlet portion.

4. A flow control of claim 3, wherein said gas inlet passage opens into said throat.

5. A flow control of claim 3, wherein said gas inlet passage opens into said downstream portion of said venturi.

6. A flow control of claim 3, wherein said venturi is formed in said body.

7. A flow control of claim 6, wherein said conduit is formed from two interconnected sections, and wherein said flow control washer is positioned between said sections.

8. A flow control of claim 3, wherein said venturi is formed in an insert that forms at least part of said conduit and that is mounted in a fitting, and wherein said gas inlet passage is formed from a bore in said insert, a passage between said insert and said fitting, and a bore in said fitting that opens to the ambient atmosphere.

9. A flow control of claim 1, wherein said gas inlet passage includes a bore having a diameter of between 0.020" and 0.060".

10. A flow control of claim 9, wherein said bore has a diameter of about 0.035".

11. A flow control of claim 1, further comprising a one-way valve that is disposed in said gas inlet passage.

12. A flow control of claim 11, wherein the one-way valve comprises a duck-billed valve.

13. A flow control comprising:

(A) a conduit including an inlet, an outlet, and an outer peripheral surface, wherein a venturi is disposed in said conduit between said inlet and said outlet, said venturi including a throat, an inlet portion that is located upstream of said throat and that tapers inwardly toward said throat, and an outlet portion that is located downstream of said throat and tapers outwardly away from said throat, and wherein an ambient air inlet passage is formed in said conduit and is configured to permit ambient air to enter said venturi downstream of said inlet portion; and

(B) a flow control washer that is disposed in said conduit between said inlet and said venturi, said flow control washer being configured to maintain a generally constant volumetric liquid fluid flow rate therethrough despite pressure fluctuations at said inlet of said conduit.

14. A control valve comprising:

(A) a service port configured for connection to a resin tank containing a treatment medium;

(B) an inlet port configured for connection to a source of untreated water;

(C) a treated water outlet port;

(D) a wastewater drain port; and

(E) a flow control coupled to said wastewater drain port, said flow control including

(1) conduit including an inlet, an outlet, and an outer peripheral surface, wherein a venturi is disposed in said conduit between said inlet and said outlet, said venturi including a throat, an inlet portion that is located upstream of said throat and that tapers inwardly toward said throat, and an outlet portion that is located downstream of said throat and that tapers outwardly away from said throat, and wherein an ambient air inlet passage is formed in said conduit and is configured to permit ambient air to enter said venturi downstream of said inlet portion from a location external of said water softener control valve;

(2) a one way valve disposed in said ambient air inlet passage; and

(3) a flow control washer that is disposed in said body between said inlet and said venturi, said flow control washer being configured to maintain a generally constant fluid volumetric liquid flow rate therethrough despite pressure fluctuations at said inlet.

15. A water softener comprising:

(A) a brine tank;

(B) a resin tank contain a treatment medium; and

(C) a water softener control valve including

(1) a brine port fluidically coupled to said brine tank;

(2) a service port fluidically coupled to said resin tank; and

(3) an inlet port configured for connection to a source of untreated water;

(4) a treated water outlet port;

(5) a wastewater drain port; and

(6) a flow control coupled to said wastewater drain port, said flow control including

(a) a conduit including an inlet, an outlet, and an outer peripheral surface, wherein a venturi is disposed in said conduit between said inlet and said outlet, said venturi including a throat, an inlet portion that is located upstream of said throat and that tapers inwardly toward said throat, and an outlet portion that is located downstream of said throat and that tapers outwardly away from said throat, and wherein an ambient air inlet passage is formed in said conduit and is configured to permit ambient air to enter said venturi downstream of said inlet portion from a location external of said water softener control valve;

(b) a one way valve disposed in said ambient air inlet passage; and

(c) a flow control washer that is disposed in said body between said inlet and said venturi, said flow control washer being configured to

maintain a generally constant volumetric liquid flow rate therethrough despite pressure fluctuations at said inlet.

16. A method of controlling flow of a liquid through a conduit comprising:

(A) directing the liquid to flow through said conduit at an initial supply pressure that fluctuates;

(B) directing the liquid through an aperture in a flow control washer located within said conduit, said aperture varying in size with fluctuations in supply pressure so as to maintain an at least generally constant volumetric liquid flow rate through said aperture; and

(C) attenuating noise generation that would otherwise occur through operation of said flow control washer by admitting a gas into said conduit.

17. A method of claim 16, wherein the noise attenuation step comprises admitting ambient air into a low pressure region of said conduit located downstream of said flow control washer.

18. A method of claim 17, wherein said low pressure region comprises a venturi having a throat, an inlet portion that is located upstream of said throat and that tapers inwardly toward said throat, and an outlet portion that is located downstream of said throat and that tapers outwardly away from said throat, and wherein the noise attenuation

step comprises admitting ambient air into said venturi at a location downstream of said inlet portion.

19. A method of claim 16, wherein the noise attenuation step comprises admitting ambient air into an ambient air inlet passage opening into said conduit, and further comprising preventing liquid flow out of said ambient air inlet passage via operation of a one-way valve disposed in said ambient air inlet passage.

20. A method of claim 16, wherein the noise attenuation step comprises reducing noise levels by at least 5 decibels when compared to noises that would be generated by flow of the same liquid through said orifice at the same average supply pressure and the same volumetric flow rate.

21. A method of claim 16, wherein the step (A) comprises directing liquid through said conduit at a volumetric flow rate of between 0.5 gpm and 25 gpm.

22. A method of claim 16, wherein the step (A) comprises directing liquid into said conduit at an average supply pressure of between 20 psi and 125 psi.